and pharmaceutically acceptable salts thereof having a molecular weight less than about 750,000 daltons.

102. A method of treating a patient for the same purposes as recombinant erythropoietin is used, the method comprising administering an effective amount of a form of hyaluronic acid selected from the group consisting of hyaluronic acid and pharmaceutically acceptable salts thereof having a molecular weight less than about 750,000 daltons.

103. A method for enhancing the stimulation of cells production/release from the bone marrow and other tissue sites into the blood, the cells being selected from at least one of the group consisting of hematopoietic cells and dendritic-type cells, said method comprising administering an effective amount of a form of hyaluronic acid selected from the group consisting of hyaluronic acid and pharmaceutically acceptable salts thereof having a molecular weight of less than 750,000 daltons.

104. A method of treating a patient by enhancing the stimulation and activation of stromal cells, comprising administering an effective amount of a form of hyaluronic acid selected from the group consisting of hyaluronic acid and pharmaceutically acceptable salts thereof having a molecular weight of less than 750,000 daltons.

105. A method of treating a patient by releasing cancer cells from bone marrow and other tissues into the blood, comprising administering an effective amount of a form of hyaluronic acid selected from the group consisting of hyaluronic acid and pharmaceutically acceptable salts thereof to an individual, the molecular weight of the form of hyaluronic acid being less than 750,000 daltons.

106. The method of Claim 101, 102, 103, 104, or 105 wherein the form of hyaluronic acid comprises at least about 1.5mg/kg of patient body weight to whom the form of hyaluronic acid is administered.

107. The method of Claim 101, 102, 103, 104, or 105 wherein the form of hyaluronic acid comprises at least two dosages, a priming dosage amount and an additional dosage amount and said form of hyaluronic acid is sodium hyaluronate.

108. The method of Claim 101, 102, 103, 104 or 105 wherein the form of hyaluronic acid is at least about 12 mg/kg of patient body weight and said form of hyaluronic acid is sodium hyaluronate.

109. The method of Claim 107 wherein the form of hyaluronic acid has a molecular weight of about 320,000 daltons.

110. The method of Claim 108 wherein the form of hyaluronic acid has a molecular weight of about 320,000 daltons.

111. A method for the administration to a human of an effective amount of a form of hyaluronic acid comprising an effective amount of a form of hyaluronic acid selected from the group consisting of hyaluronic acid and pharmaceutically acceptable salts thereof having a molecular weight less than about 750,000 daltons for enhancing, stimulating and releasing hematopoietic cells and dendritic-type cells from the bone marrow and other tissues into the blood.

112. A method of treatment for the administration to a human of an effective amount of a form of hyaluronic acid comprising administering to the human an effective amount of a form of hyaluronic acid selected from the group of hyaluronic acid and pharmaceutically acceptable salts thereof having a molecular weight less than about 750,000 daltons for stimulating and activating stromal cells.

113. A method of treatment for the administration to a human of an effective amount of a form of hyaluronic acid comprising administering to the human an effective amount of a form of hyaluronic acid selected from the group of hyaluronic acid and pharmaceutically acceptable salts thereof having a molecular weight less than about 750,000 daltons for releasing cancer cells from the bone marrow and other tissues into the blood.

114. The method of Claim 111, 112 or 113 wherein the form of hyaluronic acid comprising hyaluronic acid and pharmaceutically acceptable salts thereof is at least about 6 mg/kg of patient body weight to whom the form of hyaluronic acid is administered.

115. The method of Claim 111, 112 or 113 wherein the form of hyaluronic acid comprises at least two dosages, a priming dosage amount and an additional dosage amount.

116. A method of treating a patient for enhancing the stimulation of cells production/release from the bone marrow and other tissues of cells selected from at least one of the group consisting of hematopoietic cells and dendritic-type cells, comprising administering a plurality of amounts of a form of hyaluronic acid selected from the group consisting of hyaluronic acid and pharmaceutically acceptable salts thereof having a molecular weight less than about 750,000 daltons to the patient at predetermined intervals, at least one of such dosages being in an amount suitable to stimulate the production/release of the cells from the bone marrow and other tissues into the blood.

117. The method of Claim 116 wherein the interval between dosages is a week.

118. The method of Claim 116 or 117 wherein at least one of the amounts is a priming dosage for the patient and the form of hyaluronic acid is sodium hyaluronate.

119. The method of Claim 116 or 117 wherein the form of hyaluronic acid is sodium hyaluronate.

120. The method of Claim 119 wherein the form of hyaluronic acid has a molecular weight of about 320,000 daltons.

121. The method of Claim 118 wherein one of the amounts is at least about 6 mg/kg of patient body weight to whom the form of hyaluronic acid is administered.

122. The method of Claim 116 or 117 wherein one of the dosages is a priming dosage in the amount of less than about 3 mg/kg of patient body weight.

123. The method of Claim 119 wherein one of the dosages is a priming dosage in the amount of less than about 3 mg/kg of patient body weight.

124. A method of treating a patient for mobilizing hematopoietic cells from bone marrow and other tissues in a human into the blood of the human, the

method comprising administering an effective amount of a form of hyaluronic acid selected from the group consisting of hyaluronic acid and pharmaceutically acceptable salts thereof having a molecular weight less than about 750,000 daltons to the patient.

125. A method of treating a patient for mobilizing stem cells from bone marrow in a human into the circulation system of the human, the method comprising administering an effective amount of a form of hyaluronic acid selected from the group consisting of hyaluronic acid and pharmaceutically acceptable salts thereof to the patient.

126. A method of generating stem cells for transplantation comprising administering an effective amount of a form of hyaluronic acid selected from the group consisting of hyaluronic acid and pharmaceutically acceptable salts thereof having a molecular weight less than about 750,000 daltons to an individual and subsequently harvesting the cells to be transplanted from the peripheral blood.

127. A method of treating a patient for immunosuppression caused by chemotherapy comprising administering an effective amount of a form of hyaluronic acid selected from the group consisting of hyaluronic acid and pharmaceutically acceptable salts thereof having a molecular weight less than about 750,000 daltons to the patient who has undergone chemotherapy.

128. A method of a treating a patient for immunosuppression caused by AIDS comprising administering effective amount of a form of hyaluronic acid selected from the group consisting of hyaluronic acid and pharmaceutically acceptable salts thereof having a molecular weight less than about 750,000 daltons to the patient who has AIDS.

129. A method of treating a patient for cancer comprising administering effective amount of a form of hyaluronic acid selected from the group consisting of hyaluronic acid and pharmaceutically acceptable salts thereof having a molecular weight less than about 750,000 daltons to the patient followed by administration of a suitable effective amount of chemotherapeutic agent after about 4 hours.

130. The method of Claim 111 wherein the hematopoietic cells are mast cell progenitors.

131. The method of Claim 130 wherein the administeration is to modulate symptoms of allergy or asthma.

132. A method of increasing the level of red cells in the blood of a patient by administering forms of hyaluronic acid selected from the group consisting of hyaluronic acid and pharmaceutically acceptable salts thereof having a molecular weight less than about 750,000 daltons to the patient.

133. The method of Claim 124, 125, 126, 127, 128, 129, 130, 131 or 132 wherein the form of hyaluronic acid is sodium hyaluronate.

134. The method of Claim 133 wherein the form of hyaluronic acid has a molecular weight of about 320,000 daltons.

135. The method of Claim 133 wherein the amount of the form of hyaluronic acid is at least about 6mg/kg of patient body weight to whom the form of hyaluronic acid is administered.

136. The method of claim 133 wherein the method of treatment includes the administration of a plurality of dosages of the form of hyaluronan including at least one priming dosage in the amount of the form of hyaluronan less than about 3 mg/kg of patient body weight.

137. A method to mobilize any type of susceptible cell from one tissue to another, as a single agent or before/during other clinical procedures, as taught for hematopoietic and other types of normal or malignant cells, the method comprising administering an effective amount of a form of hyaluronan to a patient who will benefit therefrom wherein the form of hyaluronan is selected from hyaluronan and pharmaceutically acceptable salts thereof having a molecular weight less than 750,000 daltons.

138. A method to mobilize hematopoietic cells before and during harvesting of tissue to be used for organ transplanations by the infusion of effective amounts of hyaluronan to a patient wherein the form of hyaluronan is selected from hyaluronan and pharmaceutically acceptable salts thereof having a molecular weight less than 750,000 daltons.

139. A method of using ex-vivo hyaluronan perfusion to mobilize hematopoietic and dentritic-type cells out of an ex-vivo organ that has already been harvested from the donor by the infusion of an effective amount of hyaluronan to a patient wherein the form of hyaluronan is selected from hyaluronan and pharmaceutically acceptable salts thereof having a molecular weight less than 750,000 daltons.

140. A method using hyaluronan infusion to treat host individuals about to receive an organ transplant prior to and during the transplantation procedure by the infusion of an effective amount of hyaluronan to a patient wherein the form of hyaluronan is selected from hyaluronan and pharmaceutically acceptable salts thereof having a molecular weight less than 750,000 daltons.

141. A method using hyaluronan infusion to mobilize hematopoietic cells and dendritic-type cells away from/out of an organ graft that shows signs of immunologic rejection by the infusion of an effective amount of hyaluronan to a patient wherein the form of hyaluronan is selected from hyaluronan and pharmaceutically acceptable salts thereof having a molecular weight less than 750,000 daltons.

142. A method to maximize chemotherapeutic kill of hematopoietic and dendritic-type cells by infusing HA before and during the cytoreductive therapy administered prior to an autologous or allogeneic hematopoietic cell transplant in, for example, cancer patients such method comprises administration to a patient of an effective amount of hyaluronan to maximize chemotherapeutic kill of hematopoietic and dendritic-type cells in patients benefiting from same wherein the form of hyaluronan is selected from hyaluronan and pharmaceutically acceptable salts thereof having a molecular weight less than 750,000 daltons.

143. The method of Claim 137, 138, 139, 140, 141, 94 or 142 wherein the form of hyaluronic acid is sodium hyaluronate.

144. The method of Claim 143 wherein the form of hyaluronic acid has a molecular weight of about 320,000 daltons.

145. A pharmaceutical composition for administration to an individual for the same purposes as recombinant GM-CSF or G-CSF is administered, comprising an

effective dosage amount of a form of hyaluronic acid having a molecular weight less than 750,000 daltons selected from the group consisting of hyaluronic acid and salts thereof and combinations thereof and pharmaceutically acceptable carrier and wherein said amount of the form of hyaluronic acid is between 1.5mg/kg to 12 mg/kg of patient body weight.

146. A pharmaceutical composition for administration to a human for the same purposes as recombinant erythropoietin, comprising an effective dosage amount of a form of hyaluronic acid selected from the group consisting of hyaluronic acid and pharmaceutically acceptable salts thereof having a molecular weight less than about 750,000 daltons, and wherein said amount of the form of hyaluronic acid is between 1-5mg/kg to 12 mg/kg of patient body weight.

147. The composition of Claim 145 or 146 wherein the form of hyaluronic acid comprises at least about 1-5mg/kg of patient body weight to whom the form of hyaluronic acid is administered.

148. The composition of Claim 145 or 146 wherein the form of hyaluronic acid is sodium hyaluronate comprising at least two dosages, a priming dosage amount and an additional dosage amount.

149. The composition of Claim 145 or 146 wherein the form of hyaluronic acid is at least about 12 mg/kg.

150. The composition of Claim 147 wherein the form of hyaluronic acid is sodium hyaluronate.

151. The composition of Claim 150 wherein the form of hyaluronic acid has a molecular weight of about 320,000 daltons.

152. The composition of Claim 145 or 146 wherein the amount of the form of hyaluronan is at least about 6 mg/kg of patient body weight to whom the form of hyaluronic acid is administered.

153. The composition of Claim 145 or 146 wherein the dosage is a priming dosage in the amount of less than about 3mg/kg of patient body weight to whom the form of hyaluronic acid is administered.

154. A pharmaceutical composition for administration to an individual to mobilize and stimulate the hematopoietic stem cells production and release comprising an effective amount of a form of hyaluronic acid selected from hyaluronic acid and salts thereof having a dosage of 1.5 mg/kg of patient body weight to 12 mg/kg of patient body weight.

155. The pharmaceutical composition of claim 154, wherein the hematopoietic stem cells comprises the cells selected from the group consisting of granulocytes, macrophages, CD34+ stem cells, monocytes, erythroblasts, polymorphonuclear cells, T-cells, B-cells and platelats.

156. The pharmaceutical composition of claim 155, wherein the form of Hyaluronic acid is sodium hyaluronate.

157. The pharmaceutical composition of claim 155, wherein the composition can be administrated to an individual orally, intravenously, or continuous infusion by placed a depot of the composition subcutaneously or intraperitonially.

158. The pharmaceutical composition of claim 157, wherein the molecular weight of the form of hyaluronic acid is between 200,000 daltons to 500,000 daltons.

159. The pharmaceutical composition of claim 157, wherein the molecular weight of the form of hyaluronic acid is between 50,000 daltons to 200,000 daltons.

160. The pharmaceutical composition of claim 158 or 159 further comprising a pharmaceutically acceptable carrier.

161. The pharmaceutical composition of claim 160, wherein the composition further comprises a therapeutic agent.

162. A method for the manufacture of a pharmaceutical composition for administration to an individual to mobilize cells from bone marrow or other tissue organs to blood, comprising mixing a mobilizing effective amount of a cell adhesion molecule with pharmaceutically acceptable salts thereof.

163. The method of claim 162, wherein the cells comprising hematopoietic stem cells, and dendritic-type cells.

164. The method of claim 163, wherein the hematopoietic stem cells comprises the cell selected from the group consisting of granulocytes, macrophages, CD34+ stem cells, monocytes, erythroblasts, polymorphonuclear cells, T-cells, B-cells and platelats.

165. The method of claim 164, wherein the mobilizing effective amount of a cell adhesion molecule is the effective fragment of hyaluronan, salts thereof and combinations thereof.

166. The method of claim 165, wherein the mobilizing effective amount of a cell adhesion molecule is the effective fragment of hyaluronan with a molecular weight ranging from 150,000 daltons to 750,000 daltons.

167. The method of claim 166, wherein the mobilizing effective amount of a cell adhesion molecule is the effective fragment of hyaluronan with a molecular weight ranging from 200,000 daltons to 500,000 daltons.

168. The method of claim 165, wherein the mobilizing effective amount of a cell adhesion molecule is the effective fragment of hyaluronan with a molecular weight ranging from 50,000 daltons to 200,000 daltons.

169. The method of claim 166, 167 or 168, wherein further mixing with a pharmaceutically acceptable carrier.

170. The method of claim 169, wherein further mixing with a therapeutic agent.

REMARKS

Claims 94 and 101 to 170 remain in the application. The fee of $4,560.00 USD for filing the application containing these claims is enclosed. This fee has been calculated in accordance with the Form PTO-1390 entitled "Transmittal Letter to the United States Designated/Elected Office (DO/EO/US) Concerning a Filing Under 35 U.S.C. 371".